



Spectral Gamma-Ray Borehole  
Log Data Report

Page 1 of 2

Borehole

41-08-11

Log Event A

### Borehole Information

Farm : <u>SX</u>	Tank : <u>SX-108</u>	Site Number : <u>299-W23-101</u>
N-Coord : <u>35,391</u>	W-Coord : <u>75,789</u>	TOC Elevation : <u>661.94</u>
Water Level, ft :	Date Drilled : <u>3/15/1962</u>	

### Casing Record

Type : <u>Steel-welded</u>	Thickness : <u>0.280</u>	ID, in. : <u>6</u>
Top Depth, ft. : <u>0</u>	Bottom Depth, ft. : <u>75</u>	

### Equipment Information

Logging System : <u>1</u>	Detector Type : <u>HPGe</u>	Detector Efficiency: <u>35.0 %</u>
Calibration Date : <u>03/1995</u>	Calibration Reference : <u>GJPO-HAN-1</u>	

### Logging Information

Log Run Number : <u>1</u>	Log Run Date : <u>6/9/1995</u>	Logging Engineer: <u>Steve Kos</u>
Start Depth, ft.: <u>0.0</u>	Counting Time, sec.: <u>100</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>22.0</u>	MSA Interval, ft. : <u>0.5</u>	Log Speed, ft/min.: <u>n/a</u>

Log Run Number : <u>2</u>	Log Run Date : <u>6/9/1995</u>	Logging Engineer: <u>Bob Spatz</u>
Start Depth, ft.: <u>21.0</u>	Counting Time, sec.: <u>100</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>48.5</u>	MSA Interval, ft. : <u>0.5</u>	Log Speed, ft/min.: <u>n/a</u>

Log Run Number : <u>3</u>	Log Run Date : <u>6/12/1995</u>	Logging Engineer: <u>Bob Spatz</u>
Start Depth, ft.: <u>75.0</u>	Counting Time, sec.: <u>100</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>62.5</u>	MSA Interval, ft. : <u>0.5</u>	Log Speed, ft/min.: <u>n/a</u>

Borehole

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**Analysis Information**

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Analyst : D.C. StromswoldData Processing Reference : Data Analysis Manual Ver. 1Analysis Date : 8/11/1995**Analysis Notes :**

This borehole was logged in three runs. The pre- and post-survey field verification spectra showed consistent activities, indicating the logging system operated properly during data collection. Energy calibrations differed because of gain drift in the instrumentation. Gain drifts during data collection necessitated multiple energy versus channel number recalibrations during processing of the data to maintain proper peak identification. A depth overlap occurred from 21 to 22 ft, and the data repeatability was very good.

The casing thickness was 5/16 (0.3125) inches. The correction factors for 0.33-in.-thick steel casing were used during analysis, which results in an almost negligible over-estimation of the radionuclide concentrations. No other corrections, such as for fluid, were made to the log data.

No data were collected from 48.5 to 62.5 ft, where saturation of the detector occurred. Cs-137 was measured at 110 pCi/g and the total gamma count rate was measured at 37,900 counts per second at 62.5 ft in depth. These measurements were the maximum in the borehole, with the exception of the saturated zone. The U-238 (609 keV energy peak) data could not be quantified after about 40 ft because of the influence of the Cs-137 (661 keV energy peak).

Spectra from just above and below the zone of detector saturation indicated elevated counts in the low-energy continuum. The elevated continuum could be caused by bremsstrahlung radiation, which is the result of a high-energy beta emitter such as Sr-90. Additional information and interpretations of log data are included in the main body of the Tank Summary Data Report for tank SX-108.

**Log Plot Notes:**